

**The Values Basis for Conflicts over Public Land Management: USDA Forest
Service Leadership Team and the American Public**

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Introduction

Public lands managed by the USDA Forest Service and the US Department of Interior's Bureau of Land Management are managed for multiple uses by law, and thus have always addressed the issues concerning a variety of users. However, over time as the population has increased and the number of outdoor enthusiasts has grown, the necessity to address a widening variety multiple uses and interaction between diverse users has increased. As is the case with rising demand for any limited resource, the occurrence of conflict stemming from competing or incompatible uses are now more common or at least more apparent. As this trend has become apparent, there has been increasing amounts of literature examining conflict over federal lands (Langenau et al. 1984; Owens 1985; Wondolleck 1988; Ivy et al. 1992; Lindeborg 1992).

The majority of public lands conflict literature focuses on conflict between users, often recreationists such as snowmobilers and cross-country skiers, and suggests much of the conflict stems from users' different perceptions of the "acceptable" use of federal lands. However, there is also a growing segment within this literature that compares professional and lay judgments about natural resource management. This segment of the literature has found that managers and users of public lands have dissimilar perceptions of the proper use and functions of those lands (Merriam et al. 1972; Peterson 1974; Twilight and Lyden 1989; Vining 1992; Brown and Reed 2000). Furthermore, these public-management comparisons highlight the fact that management can also play a role in the creation of public land conflict. For example, management decisions may reflect management's view of "acceptable" use of federal lands, perceptions based on value orientations of federal personnel more than on the public users' values, causing concern on the part of some public users. Thus, the variation in public-management values deserves further attention, if for no other reason, to help manage future conflict over

public lands management, an obstacle that's potential to expand increases as the number of outdoor enthusiasts continues to grow.

The purposes of this paper are twofold. First it is to draw attention to the issues. Second, this research will explore the variation of values within the public and within the leadership of the USDA Forest Service. This second aspect to the paper will allow insight to expand beyond the overall public values and overall leadership values, instead focusing on diversity not only between the public and leadership of the USDA Forest Service, but also within the public as a whole and the leadership.

This paper attempts to draw attention to differences between public and management values for public lands, using the USDA Forest Service as a focus. Through an analysis based on a national survey, this research compares and contrasts values held by the public at large with those held by management officials within the USDA Forest Service. This information is pertinent both for the public and managers alike. By providing greater insight to the existence of these different values, this work can help to find a balance between users and stewards for both management processes and ultimate desired outcomes.

This research reviews the literature regarding public land management conflicts and values, and the public-manager differences concerning public land management. It then examines data from a nationwide survey, drawing conclusions about variation between the public and Forest Service Leadership Team responses and variation within each of the groups. Finally this research concludes with an assessment of the implications of these results for the public and public land managers alike.

Literature review

Conflict within Public Land Management

There are numerous definitions of conflict, depending on the field of study explored (e.g., psychology, economics, political science). However a commonality that exists within nearly all definitions of conflict is the notion of incompatibility. Incompatibility can take the form of incompatible actions, interests, goals or values (Thomas, 1976; Klar et al. 1988; Gericke and Sullivan 1994, 126). According to Nicholson (1991, 59, quoted in Gericke and Sullivan 1994, 126), "A conflict exists when two or more parties have opposed views about how some social situation should be organized." Moreover, according to McEnery (1985, 42) conflict is "the interaction of any two or more value systems." Relating this to the Forest Service, conflict occurs when stakeholders (public or managers) have different views of the "proper" management of/outcome for public lands resources. As noted before, views concerning what is "proper" are more likely to differ with increasing consumption patterns and changing lifestyles (Brown 1984; Owens 1985; Ivy et al. 1992).

Conflict is not inherently bad and thus conflict per se is not of concern to public land management. Conflict can produce desirable affects. For example it can keep managers from becoming complacent, promote checks and balances within agency decision-making, encourage redefining of issues and creative solutions to problems, and ensure

that many interests will be heard (Coser, 1956). If conflict progresses to the point where there is an inability on the part of decision-makers to resolve disputes and a failure to make viable decisions, then conflict and its outcomes are no longer beneficial (Wondolleck 1988).

Public land managers need to be aware of situations where public land managers (public resource stewards) and the public (public resource users) are likely to disagree or view management practices and/or outcomes differently. Thus, the traditional land management paradigm premised on rational, scientifically based resource conservation and use faces the need to expand its parameters in order to accommodate more recent and highly judgmental preservation and noncommercial objectives held by various elements within the public (Wondolleck 1988, 5; Bengston et al. 1999). This expansion would function as a means to help avoid immobilizing conflict with preservation elements within the public and is just one example of how policies governing the management of public lands do not remain static, but shift according to social paradigms, leadership, and ideologies.

The tremendous wealth contained within our public lands makes for difficult and complex decision-making about the allocation of that wealth (Wells 1995; Bengston et al. 1999; Hendee and Dawson 2002; Loomis 2002). As a part of this, managers must often choose between management options that differentially address space (local, regional, national interests) and time (existing versus future generation) (Cramer et al. 1993). Furthermore, public land conflict encompasses not only who gets what but also who decides who gets what and what criteria are used for deciding (Wondolleck 1988; Loomis 2002). Thus the constant balancing act must accommodate changing social paradigms and leadership, and must address some contentious allocation issues while constantly keeping in mind the real and perceived significance of decision-making personnel and criteria.

The difficulty this creates for land management agencies is extensive. In a speech to Congress, Dale Bosworth, Chief of the USDA Forest Service beginning in 2001, noted the "difficult, costly, confusing and lengthy processes that Forest Service line officers must follow to comply with the laws enacted by Congress, implementing regulations and procedures put in place by the Forest Service and other agencies, and standards imposed by the courts" (Bosworth 2002). He continues, noting that the current system is so complex and was created with little or no coordination that if left in place, "it is only going to go from difficult to impossible to get work accomplished on the national forests and grasslands" (Bosworth 2002). With so many diverse ideas of how and for what national lands should be managed, it is not surprising that many conflicting regulations have been put in place to guide public land management.

The complexity of public land management is made evident today in the ongoing struggle to compromise between conservation and preservation. The multiple purposes for which the US public lands were designed include preservation of ecosystems and wildlife habitat, recreation, cultural uses, and resource development. When these purposes are incompatible, the resultant disputes can incite long-running public debates over policy.

Consequences of failing to address these disagreements over policy have been found to add to the probability of a high level of conflict (Gericke and Sullivan 1994; Bengston et al. 1999) and are costly in terms of delays, litigation, and the expenditure of resources that could be use more efficiently elsewhere (Wondolleck 1988; Gericke and Sullivan 1994; Steelman and Maguire 1999). When issues of this type surface, their base can often be traced back to individual values—both held by public citizens and managers. This leads to a situation where it is necessary to compromise or dissent. Thus in order to avoid conflicts over public land management, it is helpful to understand the values held by the public and managers.

Values within Public Land Management

Similar to “conflict,” the concept of “value” has many meanings. Among the plethora of descriptions, Rokeach (1973, 5) provides a relatively general definition of values, “an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence.” Much of this traditional work on human values (Etzioni 1988; Rokeach 1973, 1979) assumes that values guide behavior, acting as internal motives rather than external constraints. Following these ideas, this paper uses the term value to refer to the preference related concept, or more precisely, an individual’s setting of one thing before or above another due to a notion of betterness (Brown 1984, 232).¹

Focusing specifically upon the preference related concept to explain values, there are distinctions between held values and assigned values. Held values are principles, moral, beliefs, or ideas that individuals and/or groups consider desirable (Shields et al. 2002). They are the basic and enduring notions that a specific mode of conduct or end state is preferable to other options. Examples include the notions of liberty, justice, and responsibility. Assigned values, on the other hand, are derived from held values, but provide measures of relative worth or importance (monetary or otherwise) attributed to an object, state or behavior (Shields et al 2002). They tend to be associated with goods and services. Assigned values are influence by held values in that the basic values held determine the value assigned to objects, states and behavior; however assigned values differ from held values in that they also take into account the context in which the preference decisions are made. Differences in context can lead to differences in assigned values even for the same object, state, or behavior. This paper will focus on held values.

Held Values

Held values are classified into three categories: terminal and instrumental values, ecological orientations, and altruistic beliefs. The first category within held values is terminal and instrumental values. Terminal values are generalized end states a person seeks. Instrumental values are means through which a person seeks to attain their desired ends (Shields et al. 2002, Brown 1984). Both of these values indicate that the referent entity is a means to achieve a purpose of another entity (Lockwood 1999, 382).

¹ Numerous scholars note that there are many ways to categorize values, for more information on this, see Rescher 1969, Brown 1984, and Brown and Reed 2000, among other scholars.

The second category of held values is ecological orientations. Research has shown two general types of ecological orientations: anthropocentrism and biocentrism. These two orientations are distinct due to the way they perceive the relationship between an individual and ecosystems. The anthropocentric perspective does not view all species as equal, rather it puts humans and nature into a hierarchy where human needs and wants are dominant (Martin et al. 1998). The biocentric perspective does not give primacy to humans, rather it takes a nature centered approach (including humans as a part of nature), assuming natural resources have inherent as well as instrumental worth (Eckersley 1992; Steel et al. 1994). These orientations concern individuals' opinions about whose or what principles should be considered in consumption decisions concerning public lands. For example, these beliefs are expressed when asking people if forests have a right to exist for their own sake regardless of human concerns and uses. The anthropocentric perspective believes the dominance of humans within ecosystems provide the foundation for a more explicit belief in the development of resources on the public lands. Thus forests exist for human uses (be it hiking, resource extraction, or other uses). This is the more traditional conservation ethic, advocated for years by much of the leadership and many of the employees in federal resource agencies (Wondolleck 1988; Steel et al. 1994). Conversely, the biocentric philosophy implies preservationist attitudes and behaviors concerning public lands. Therefore, they believe forest have a right to exist for their own sake. This view has been associated with environmentalists, but also with growing elements within federal resource agencies (McQuillan 1990; Rolston and Coufal 1991; Steel et al. 1994).

The distinction between anthropomorphism and biocentrism is important because scholars suggest connections between these orientations and preferences for land management practices. However, as noted within Rantala and Primmer (2003), despite difference in opinions there is common ground between these two orientations. Basic protectionist concepts are widely accepted in the political rhetoric by diverse actors (Rantala and Primmer 2003, 211). The forms of economic, ecological and social sustainability are quite general statements and thus give a lot of room for interpretation. Frequently the differences appear not in the stated desired outcome, which reflects the general ideas, but rather in the management process needed to realize those outcomes. For example, there is wide acceptance and a desire for healthy forests. The disagreement come in deciding what management process are needed in order to create and support healthy forests.

Finally, held values are also classified as altruistic beliefs. Altruistic beliefs are concerned with the meanings that individuals attach to "non-use" types of amenities on public lands. They comprise a category that is divided into three additional classifications: option beliefs, bequest beliefs, and existence beliefs (Freeman, 1993). Option beliefs refer to the idea that the environment has "a *potential use* benefit as opposed to *present use* benefit" (Martin et al. 1998). This includes the idea that although not currently a visitor of national forests, an individual may plan to visit them sometime in the future. Bequest beliefs are concerned with preserving the environment for future generations. Finally, existence beliefs find worth in preventing the extinction of a species or complete destruction of a resource.

Held Values	Principles, moral, beliefs, or ideas that individuals and/or groups consider desirable
A. Terminal and Instrumental Values	Terminal values are generalized end states a person seeks. Instrumental values are means through which a person seeks to attain their desired ends
B. Ecological Orientations	the way people perceive the relationship between an individual and ecosystems
1. Anthropocentric	humans and nature are not equal, rather human needs and wants are dominant
2. Biocentric	a nature centered approach (including humans as a part of nature), assuming natural resources have inherent as well as instrumental worth
C. Altruistic Beliefs	concerned with the meanings that individuals attach to “non-use” types of amenities
1. Option Beliefs	the idea that the environment has “a <i>potential use</i> benefit as opposed to <i>present use</i> benefit”
2. Bequest Beliefs	concerned with preserving the environment for future generations
3. Existence Beliefs	find worth in preventing the extinction of a species or complete destruction of a resource
Assigned Values	derived from held values, but provide measures of relative worth or importance (monetary or otherwise) attributed to an object, state or behavior

In general, held values provide, at least in part, the basis for preference about things and states of nature (Brown 1984, 232). It is these preferences that are directly at issue in policy concerns such as resources allocation and management.

This work looks at values from two angles. First it explores overall values for the USDA Forest Service leadership team, determining if, in general, the leadership is more anthropocentric or biocentric. Then the same determination is made for the public. Finally, the overall Forest Service leadership team values are then compared to those of the public. Second, this work examines variation of values within the leadership team and within the public. This allows us to move beyond the overall assessments, looking more specifically at anthropocentric and biocentric clusters within both the leadership

team and the public. However, before either of these can be done, it is worthwhile to gain a better understanding of the background to the leadership team and public's values concerning public lands management.

The USDA Forest Service: Traditional Values

Emergence of the USDA Forest Service occurred amidst the conservation movement of the early twentieth century. The public policy and management paradigm held by the newly formed agency was one centering on sustained yields of wood, forage, and water to enhance local communities and to maintain natural resources for future generations. Overall, the USDA Forest Service was designed for efficient multiple-use management of the national forests: sustainable use and provision for community economic stability (Hays 1959; Twight 1983; Cramer et al. 1993, 478).

For the first half of the century the Forest Service was highly successful with its management policies based on conservation era values of efficient, long-term, multiple-use development (Kaufman 1960). Evidence of successful conservation values are reflected in numerous laws including the Multiple-Use, Sustained Yield Act of 1960. However, by the mid-1960s, the public was shifting priorities, adopting the non-commodity values made apparent in expanding environmental movements and related legislation such as the National Environmental Policy Act of 1969 (Kennedy 1988; Cramer et al. 1993, 478).

Although these two sets of priorities, the conservation and environmental movements, both share a concern for multiple uses and future generations, conflict between resource development and preservation values has emerged (Culhane 1981; Twight 1983; Bullis and Kennedy 1991; Cramer et al. 1993, 479). Furthermore, until recently and despite growing diversification of values within society, Forest Service management and policies did not regularly reflect these changes. This is likely due to the fact that the diversification started from the ground level and taking time to work its way up into the ranks of those in decision-making positions. Moreover, evidence points to an organizational commitment within the Forest Service to a single-perspective (Cramer 1993; Martin and Steelman 2004; Kennedy 1991; Twight and Lyden 1988).

More recently we have seen change within the USDA Forest Service. Long-time employees with "traditional progressive conservation values and primarily forestry-oriented professional training" are starting to retire (Cramer et al. 1993, 476). Concurrently, personnel with more diverse backgrounds and philosophies are moving into and through the Forest Service system (Kennedy 1991; Cramer et al. 1993; Farnham et al. 1995; Kennedy and Quigley 1998; Brown and Harris 2000). Along with altering the objectives from conservation uses of resources, toward preservation of public lands, the change is also affecting agency values. There is a shift from an agency resistant to change and "constrained by institutional rigidities" (Martin and Steelman, 2004, 4) to a more responsive agency. Overall, despite the fact that Forest Service decisions are still frequently tied to legal mandates and official agency policy, the USDA Forest Service is evolving to incorporate more of the diverse values held by the public.

This change within the USDA Forest Service is consequential because public policy and management decisions reflect value orientations of the Forest Service personnel, particularly those in leadership positions (Cramer et al., 1993). As explained by Vining and Ebreo (1991, 180) “[t]he ideas that managers (or anyone else) can make decisions impartially is questionable because they may be partial primarily to their own values.” Additionally, as noted by Kennedy (1988), frequently this partiality is subconscious—an occurrence of *groupthink*²—particularly for members of cohesive organizations such as the USDA Forest Service. Brown and Harris (2000, 1) second this assessment, noting that the Forest Service’s dominant paradigm is the “result of a social learning process, whereby dysfunctional values and beliefs are discarded in favor of those more suited to the collective survival of the organization as it interacts with its social and political environment.” Due in part to the recognition of this subconscious partiality, the Forest Service has moved to diversify the agency culture in an attempt to reduce the negative effects of subconscious incorporation of values in decision-making (Kennedy 1991; Farnham et al. 1995; Kennedy and Quigley 1998). This diversification is occurring not only at the entry levels of the Forest Service, but can also be found within the leadership elements of the Forest Service. Martin and Steelman (2004) reveal leadership support for a preservation-oriented view of public lands management, yet also demonstrate divergent perspectives within the leadership group.

In an attempt to shed light on just how much of the public’s values toward resources utilization and public lands management are included within the USDA Forest Service, this research compares public values to those of the USDA Forest Service leadership—those in the Forest Service who have a greater impact on decision making. However, first it is important to understand the benefits of public inclusion.

The Public’s Values: Benefits of Public Inclusion

Kempton et al. (1995, 211) have concluded that “most Americans share a common set of environmental beliefs and values.” Despite this, a wide variety of values exist within the public. This is particularly true as even people who do not visit public lands generally assign what they consider to be desirable beliefs, qualities and end-states to public lands. That said, it is not the intention of this paper to evaluate the diverse grouping of values held by citizens. Rather, this paper intends to look at general values held by the public in order to compare them with those values held by leadership within the Forest Service.

The public’s beliefs about public land use are critical because the federal public land management agencies are required to include the public within their decision-making process. Legislation such as the National Environmental Policy Act (NEPA), which is discussed in the following section, require this public input, making the issue of what the USDA Forest Service does, or does not do, with that input. The inclusion of public values and public participation is important to public land management for a number of reasons. First, inclusion allows the agency to understand the preferences of its constituents (Henning 1987; Gericke and Sullivan 1994). Second, public inclusion helps

² *Groupthink* is a term coined by Janis (1967) for the tendency of organizations to become unduly proud, cohesive and confident, resulting in a situation where members fail to challenge critically their group’s beliefs and decisions.

to build trust between the public and the agency (Susskind and Cruikshank 1987; Gericke and Sullivan 1994). Finally, inclusion of the public allows the public's values to be expressed and thus acknowledged by the agency before a decision is made and implemented (Behan 1988; Gericke and Sullivan 1994; Steelman 2001). Overall, public participation and inclusion of public values has the potential to mitigate conflicts and develop public land policies acceptable to a larger number of individuals.

The other side of this argument suggests that inclusion of so many diverse opinions and values creates inefficiencies (O'Toole 1988; Steelman 2001). Experts who deal with policy issues on a daily basis are hired to make decisions; they are more knowledgeable on the issues than the average citizen and thus are more skilled at seeing the "big picture." Inclusion of the public takes time and forces the addressing of ideas that may be easily cast aside by the experts. Despite these criticisms, democratic societies are based upon at least some public involvement. Thus this research focuses on the fact that public involvement exists, and must be addressed.

Government Inclusion of Public Values: Legislation and Application

The inclusion of the public within governmental decision making has been addressed and institutionalized. It was formalized in the United States with the Administration Procedures Act (APA) of 1946. Additionally, passage of the 1969 National Environmental Policy Act (NEPA),³ the 1972 Federal Advisory Committee Act,⁴ the 1976 National Forest Management Act (NFMA),⁵ and the 1994 Executive Order 12898⁶ have required the USDA Forest Service, among others, to give the public access to land management planning processes. This legislation creates a process where public opinions are solicited through a series of notices, public forums, meetings, and advisory committees. Additionally, draft environmental impact statements are made public to allow further public input. Finally, the Forest Service is required to respond to public comments prior to issuing final environmental impact statements and records of decision. Through these processes the agency considers the public's beliefs and values in their decision-making process, while at the same time the public dialogue also grants greater political acceptability of management practices (Gericke and Sullivan 1994). Yet, if individuals are still displeased with land management planning or administrative

³ NEPA attempts to "encourage productive and enjoyable harmony between man and the environment" (42 USC 4321). As a part of this, NEPA requires a statement of the environmental impacts of proposed actions, and accords the public an opportunity to participate.

⁴ When making decisions, federal agencies often seek advice from advisory committees composed of individuals from outside the government. In order to keep these committees from representing only limited interest Congress enacted the Federal Advisory Committee Act (5 USC App. 1). This Act requires agencies to follow specific procedures when creating advisory committees and provides guidelines for the committee activities (including giving advance public notice of meetings).

⁵ The NFMA requires the Secretary of Agriculture to assess forest lands and develop a renewable resource management plan. The development of the renewable resource program must include a thorough analysis of environmental and economic impacts, coordination of multiple-use and sustained-yield principles, and public participation.

⁶ Order 12898 is designed to focus federal attention on environmental conditions in minority and low-income communities with the goal of achieving environmental justice. It places emphasis on providing access to public information and an opportunity for public participation in matters relating to the environment.

processes, a last resort is the activation of the administrative appeals procedure.⁷ Thus, through these processes and procedures, government officials within the USDA Forest Service include values held by the public within their decision making processes.

Looking at the interaction between the managers and the public, including the enactment of the aforementioned legislation, makes it possible to perceive differences in values between the two groups. Traditionally land managers, such as officials of the USDA Forest Service, applied his or her professional knowledge and experience in determining preferred alternatives for resources management—often assuming their management decisions were made based on scientific research and not on values. Nonetheless, members of public environmental groups and organizations would study the same situation and reach different scientifically-based conclusions about appropriate management practices. Forest Service personnel frequently argued specific management practices protected wilderness values, while environmental groups argued that the same practices threatened these same values. In other words, although both the Forest Service personnel and the environmental groups were looking for the same terminal values, they differed on their instrumental values.

For example, in recommending leasing in the Palisades area within Wyoming, the Forest Service contended that oil and gas exploration was compatible with all natural resources. Environmental groups argued that a road and drilling rig in a road-less area were hardly compatible with the existing wilderness and wildlife resources of the Palisades (Wondolleck 1988, 79-80). More recently, near Palm Springs, California, government officials and the wind industry determined wind power to be an appropriate response to Southern California's energy concerns—addressing both the need for more energy and the desire for “environmentally friendly” forms of energy. However, environmentalists within the region viewed the increasing numbers of windmills as visual blight and thus were not supportive of expanding the operations (Limerick et al. 2003, 28). Most groups are working towards similar ends, more environmentally friendly energy production,⁸ although their preferred means to achieve those ends frequently differ. Scholars have found that this type of difference is less likely to be caused by more or less rigorous scientific investigations, and more likely to be due to groups assigning different values to the same resources (Wondolleck 1988; Rantala and Primmer 2003). Clearly it is important for land managers and natural resource decision-makers to understand not only the values their leadership team holds, but also those that are held by the public. Furthermore, they need to recognize the differences between instrumental and terminal values. Understanding the differences between the public and leadership team, and instrumental and terminal values will allow for greater inclusion of diversity within management decisions. This then will likely help lessen public-management conflict

⁷ The process of appeals has slowed land management decision making to a crawl in a number of regions. For that reason, various administrations have attempted to curtail the public's ability to appeal Forest Service and Bureau of Land Management decision.

⁸ It can also be argued that there are groups fighting for outcome values such as a reduction in the need for energy, although many groups understand the need for energy (and therefore are attempting to work within what they view as the reality of the situation) and are thus pursuing an outcome of the most environmentally friendly energy production possible.

within natural resource management. Empirical examination of public and USDA Forest Service leadership values will help to shed light on these similarities and differences.

Methods

Data used for this report is a subset of the Values Objective Beliefs and Attitudes (VOBA) survey (Shields et al. 2002); a survey that serves to provide public input on values and objectives to Forest Service strategic planning, thus informing management of public perceptions. The VOBA was implemented as a module of the National Survey on Recreation and the Environment (NSRE),⁹ a random nation-wide telephone survey administered for the USDA Forest Service by the University of Tennessee.¹⁰

Among other items, the VOBA is comprised of 25 statements measuring public land values regarding forests and rangelands (see Appendix A for the 25 values statements). The values scale items were measured using a five-point Likert scale anchored by 1=strongly disagree and 5=strongly agree. Based on results from the confirmatory factor analysis, items in the Public Lands Values scale were divided into two categories, Socially Responsible Individual Values (SRIV) and Socially Responsible Management Values (SRMV) (Shields et al. 2002). The Socially Responsible Individual Values category contains 12 items that deal with individual actions or values.¹¹ For these statements, a higher mean response indicates a higher level of environmental orientation, or greater leanings toward biocentrism. The Socially Responsible Management Values category contains eight items that deal with how public lands should be managed. These statements are worded so that a higher value indicates that relatively more importance is placed upon human uses of or commodity production from forests and grasslands—a more anthropocentric view.

Data Collection

The VOBA module has a sample size of 7769. Of these, 7069 were asked a sampling of question from the values section of the VOBA survey. These respondents were asked only a portion of the full VOBA set of questions due to a limited amount of time available for each phone interview.¹² Specifically, each respondent was asked to respond to five randomly selected value statements.

In addition to the first 7069 respondents, another 700 respondents were asked the full set of values questions rather than a sample of the questions. Overall, in order to ensure high

⁹ For information on the National Survey on Recreation and the Environment, see: www.srs.fs.usda.gov/trends/Nsre/nrse2.html

¹⁰ In addition to the VOBA questions, respondents of the NSRE were asked basic demographic information questions and about their recreational behaviors. Additionally, although random, it is important to note that a telephone survey such as the NSRE will not adequately represent the views of segments of the population who do not have access to or who choose not to have telephones, or who prefer not to respond to telephone surveys.

¹¹ In the original survey the SRIV portion consisted of 17 items. Comments from reviewers revealed five items considered to be controversial. We chose to remove the controversial items from this report, thus leaving us with 12 items.

¹² The Office of Management and Budget requires that average survey response time be only 15 minutes. Within the NSRE, an average of 7 of the 15 minutes were devoted to the VOBA survey questions.

confidence levels, the VOBA survey was designed so that there was a minimum of 707 responses for each question, thus generating response numbers for each question that are adequate to support multivariate statistical analysis and provide a high level of confidence in the results. Finally, in 1999 the VOBA survey was administered by telephone interviews to 69 members of USDA Forest Service leadership,¹³ of whom 66 responded (96%).

The data used in this report comes from two groups. Survey responses from the general public come from the group of 707. This group was selected over the larger groups that answered a random selection of the questions due to the fact that the group of 707 answered all of the values questions. This was the deciding factor because the second group, members of the leadership team, also answered all of the values questions. By using responses from the group of 707, the two groups were exposed to the same survey instrument avoiding a possibility of priming and thus maintaining consistency.

Statistical Methods

This paper reports results for responses to the values statements within the VOBA National survey. To explore the value data, a series of statistical analyses were performed. First, basic descriptive statistics were obtained on the value data for both the public and the leadership team—mean values and standard deviations for each of the value questions. Second, t-tests were performed in order to reveal statistically significant difference between the means of the two groups (public and leadership team).

Analysis

Socially Responsible Individual Values

Table 1 contains the means and standard deviations for both the public and the leadership team's responses for the SRIVs. Additionally it lists which measures resulted in a statistically significant difference between the public and the leadership team's responses.

Table 1: Socially Responsible Individual Values

	Values (1="strongly disagree." 5="strongly agree")	Public	Leadership Team	Significant Difference
val1	People should be more concerned about how public lands are used.	4.55 0.90 (705)	4.39 0.76 (66)	
val2	Natural resources must be preserved even if people must do without some products.	4.05 1.14 (693)	3.91 1.02 (66)	
val3	Consumers should be interested in the environmental consequences of the products they purchase.	4.40 0.89 (702)	4.56 0.56 (66)	*
val6	I have often thought that if we could just get by with a little less there would be more left for future generations.	4.07 1.09 (696)	3.89 1.07 (66)	
val8	Future generations should be as important as the current one in the	4.57 0.82	4.67 0.62	

¹³ Today's USDA Forest Service leadership is not comprised of exactly the same individuals that were within 1999 respondents to the survey. However, it is possible to make connections between the 1999 and today's leadership teams due to a high degree of overlap between the two groups.

	decisions about public lands.	(700)	(66)	
val10	People should urge their friends to limit their use of products made from scarce resources.	4.04 1.07 (692)	3.77 1.00 (66)	
val11	I am glad there are National Forests even if I never see them.	4.78 0.66 (702)	4.91 0.29 (66)	**
val12	People can think public lands are valuable even if they do not actually go there themselves.	4.70 0.71 (699)	4.94 0.24 (66)	***
val14	I am willing to make personal sacrifices for the sake of slowing down pollution.	4.24 0.92 (702)	4.52 0.61 (66)	**
val15	Forests have a right to exist for their own sake, regardless of human concerns and uses.	4.24 1.05 (694)	3.79 1.40 (66)	*
val16	Wildlife, plants and humans have equal rights to live and grow.	4.12 1.22 (694)	3.12 1.51 (66)	***
val17	Donating time or money to worthy causes is important to me.	4.16 0.97 (697)	4.46 0.71 (66)	**
SRIV	(composite mean)	4.33 0.62 (707)	4.24 0.50 (66)	

*, **, *** statistically significant difference at $\alpha = 0.05, 0.01, 0.001$

Public Responses

Focusing specifically on the public respondents, Table 1 reveals strong agreement for four of the twelve SRIV statements, and moderate agreement for the other eight, along with the composite SRIV. The statements with which the public strongly agrees generally relate to the level of concern people should hold for how public lands are used, the need to consider future generations when making management decisions, and the ability of people to value public lands even if they have no personal experience with the lands. These statements all deal with intangible elements of public lands management. For example, the public does not strongly agreeing with the importance of “getting by with a little less,” or other statements of action, however they do strongly agree with the need to “be concerned” about how public lands are used and the fact that people can “think public lands are valuable” even if they do not see them.

Overall, the public shows a biocentric leaning. The public agrees, to a greater or lesser extent, with each of the SRIV statements and with the composite SRIV.¹⁴ Likewise, there is a tendency toward all three types of altruistic beliefs. Public support for option beliefs is expressed through the moderate support for the preservation of natural resources even if people must do without some products. Bequest beliefs held by the public are expressed through strong agreement for the idea that future generations should be as important as the current one in the decisions about public lands. And finally,

¹⁴ As previously noted, the SRIV statements were written so that greater agreement with the statements reveals greater biocentrism, and greater disagreement with the statements reveals greater anthropocentrism.

existence beliefs are recognized in the moderate support for the idea that forests have a right to exist for their own sake, regardless of human concerns and uses.

Leadership Team Responses

The data in Table 1 reveal a number of things about the leadership team. Overall, the leadership team members strongly agree with five of the twelve SRIV statements. For each of these statements, there is wide consensus for this evaluation. In addition, there is moderate agreement with another six of the twelve SRIV statements. There is less consistency with the evaluation of these values, than for the values that the leadership team members strongly agreed were important.

There is only one socially responsible individual value that the leadership team members rated at neutral. This value suggested that wildlife, plants, and humans have equal rights to live and grow. However, the high standard deviation (1.51) for this value statement, suggests considerable variation in the assessment of this value. There are no SRIV statements with which the leadership team moderately or strongly disagreed. And overall, the leadership team moderately agreed with the SRIV statements.

The high means exhibited by the leadership team for the SRIV statements, indicate an environmental orientation, or leaning toward biocentrism, among the leadership team respondents. Additionally, the leadership team responses also suggest support for altruistic beliefs. Strong agreement for the importance of considering future generations when making management decisions shows bequest beliefs. And moderate support for the idea that people should urge their friends to limit their use of products made from scarce resources and the idea that people can think public lands are valuable even if they do not actually go there themselves show option and existence beliefs, respectively.

Comparison of Responses

Results from the statistical analysis of the Socially Responsible Individual Values (SRIV) reveal that there is general agreement between the public and leadership team members on five of the twelve SRIV statements, in addition to the overall SRIV composite assessment. On the other hand, there are statistically significant differences in seven of the twelve SRIV statements.

Looking specifically at the statements where there are statistically significant differences, results show that the public strongly agrees with statements concerning the rights of forests to exist for their own sake, regardless of human concerns and uses, and that suggest wildlife, plants and humans have equal rights to live and grow. These preservationist leanings focus on the idea of the right for existence, rather than the need to take action to insure existence. Similar to the public, the leadership team also strongly agrees with some preservationist tendencies. However, the leadership team feels more strongly about the need for people to make personal sacrifices in order to preserve public lands. These preservationist tendencies do not stress the need to preserve “natural resources” per se, or the need to preserve for future generations. Rather the leadership team appears to focus on mere existence of the public lands. Generally, a comparison of the leadership team with the public suggests that although both groups agree with

existence values, the leadership team is more likely to focus on humans and the need to make personal sacrifices, while the public is more likely to stress equality among species.

An analysis comparing the public and leadership team's composite responses to the SRIV statements reveals that no statistically significant difference between the two groups. Both groups' composite views of the SRIV statements show moderate agreement with low standard deviations. Thus, although there are some differences within specific SRIV issue areas, both groups agree with the necessity for socially responsible individual values. Overall, both the public and the leadership team respondents support a more biocentric perspective and endorse altruistic beliefs.

Socially Responsible Management Values

Table 2 contains the means and standard deviations for both the public and the leadership team's responses for the SRMVs. Additionally it reveals the cases where a statistically significant difference between the public and the leadership team's responses exist.

Table 2: Socially Responsible Management Values

	Values (1="strongly disagree." 5="strongly agree")	Public	Leadership Team	Significant Difference
val18	We should actively harvest more trees to meet the needs of a much larger human population.	2.71 1.48 (682)	2.52 1.24 (66)	
val19	The most important role for the public lands is providing jobs and income for local people.	2.83 1.34 (688)	1.85 0.84 (66)	***
val20	The decision to develop resources should be based mostly on economic grounds.	2.65 1.23 (668)	1.67 0.75 (66)	***
val21	The main reason for maintaining resources today is so we can develop them in the future if we need to.	3.40 1.29 (684)	2.21 0.97 (66)	***
val22	I think that the public land managers are doing an adequate job of protecting natural resources from being over used.	2.96 1.09 (662)	3.70 0.90 (64)	***
val23	The primary use of forests should be for products that are useful to humans.	2.58 1.29 (689)	2.25 1.03 (66)	*
val24	The Federal government should subsidize the development and leasing of public lands to companies.	2.22 1.31 (667)	1.45 0.66 (66)	***
val25	The government has better places to spend money than devoting resources to a strong conservation program.	2.38 1.28 (686)	1.43 0.75 (65)	***
SRMV	(composite mean)	2.72 0.87 (705)	2.13 0.54 (66)	***

*, **, *** statistically significant difference at $\alpha = 0.05, 0.01, 0.001$

Public Responses

Table 2 reveals extensive neutrality toward SRMV statements on the part of the public. The public is neutral toward six of the eight SRMV statements, along with the composite SRMV, and moderately disagrees with the remaining two SRMV statements. The two

statements with which the public moderately disagrees concern the federal government subsidizing development and the leasing of public lands to companies, and the suggestion that the government has better places to spend money than devoting resources to a strong conservation program. These are the only two SRMV statements to specifically mention government budgetary issues. On the other hand, the six SRMV statements to which the public is neutral span a wide variety of issue areas. Overall, these data suggest that, while extremely neutral, the public does have slight leanings toward a biocentric view.¹⁵ This data does not address altruistic beliefs due to the fact that altruistic beliefs are concerned with the meanings that individuals attach to “non-use” type of amenities, and the SRMV statements generally focus on uses of the resources.

Leadership Team Responses

Results show a general tendency for the leadership team to disagree with the SRMV statements. In particular, the Table 2 reveals strong disagreement from the leadership team for two statements related to economics and federal government expenditures. Likewise, the leadership team shows moderate disagreement for the SRMV statements that suggest decision-making for development of resources should be based on economic issues. The only SRMV statement that received a positive response from the leadership team addresses satisfaction with public land management. This suggests that the leadership team sees the performance of the Forest Service (of which they are a part) in a favorable light. The leadership team members also were neutral toward one SRMV statement. This statement concerned the possibility of actively harvesting more trees to meet the needs of a much larger human population. Overall these results suggest biocentric leaning for the leadership team members.

Comparison of Responses

Comparison of the public and the leadership team’s responses to the SRMV statements shows statistically significant differences for seven of the eight statements. The one SRMV statement where there is relative agreement between the public and the leadership team concerns the harvesting of more trees to support larger human populations. Both groups’ responses toward this statement are neutral (although within both groups there is substantial variation in responses, as revealed with the high standard deviations). Of the seven SRMV statements where there is statistically significant difference, both groups’ strongest disagreement came with the same two statements. However, the public moderately disagreed with the statements, while the leadership team strongly disagreed with the statements. These two statements deal with government budgetary issues: the government should subsidize the development and leasing of public lands to companies, and the government has better places to spend money than devoting resources to a strong conservation program.

The results also reveal that the public is more neutral towards the SRMV statements than is the leadership team. There is only one SRMV statement where this trend does not hold. The exception is the statement suggesting public land managers are doing an

¹⁵ As previously mentioned, the SRMV statements were written so that greater disagreement with the statements reveals greater biocentrism, and greater agreement with the statements reveals greater anthropocentrism.

adequate job of protecting natural resources. It is not surprising, due to the fact that the management team works for the Forest Service, that the leadership team views the public land managers as doing a better job at protecting natural resources than do the public.

Overall the SRMV results reveal a number of similarities between the public and the leadership team's values. Not the least of which is the fact that both groups tend to support more biocentric and preservation-oriented management than anthropocentric and development-oriented management. However, this does not minimize the fact that the statistically significant differences show disconnect between the management values held by the public and those held by the USDA Forest Service leadership team. The leadership team members are significantly more biocentric than is the public.

Discussion and Conclusions

Looking at and comparing the public and leadership team results for SRIV and SRMV value statements reveals a couple of issues. First, some statistically significant differences are revealed when comparing public and leadership team responses to the SRIV statements, however there are substantial disagreements between the public and leadership team when it comes to specific SRMV statements. There is a statistically significant difference between the overall SRMV public composite mean and leadership team composite mean. Looking at management value statements reveals where these differences are meaningful. The public consistently shows stronger support for resource development and consumption while the leadership team shows a stronger conservation/preservation ethic. This result can suggest difference between public lands stewards, who view themselves as working to protect the resources, and the public (including public lands users and non-users), who are more likely to suggest the public resources should benefit a wider swath of the public.

Results from the SRMV statements show many more statistically significant differences than do the Socially Responsible Individual Values. This idea of the leadership team behaving more as stewards working to protect the resources leads to another point. These data reveal the tendency for the leadership team to put importance on maintaining the existence of resources. The leadership team focuses on existence values of the resources, of public lands, more than they value potential beneficial uses or preserving the environment for the future.

Third, both the national public and the leadership team appear to be more biocentric in orientation than anthropocentric. These results are consistent with analyses such as Dunlap (1992) that show a general increase in support for the environment in recent years. As a part of this, both groups strongly agree with individual values that result in more biocentric outcomes, although the two groups support somewhat different individual values. In a similar fashion, both groups support preservationist management practices, although the public is slightly more supportive of resource development management than are the respondents from the leadership team. These last results are similar to those offered by Rantala and Primmer (2003). It is not that the public and leadership team disagree on a biocentric outcome (terminal value), but rather the

variation comes in the suggested actions needed to achieve the outcome. The variance does not come with the terminal values, but rather with the instrumental values. Therefore, this is not a zero sum game—both the leadership team and the public can achieve their desired outcomes; however conflict may arise when choosing the processes through which to achieve these outcomes. In other words, conflict is more likely to arise concerning process values than terminal values.

Overall these results suggest that the USDA Forest Service may encounter resistance from the public in the future if the natural resource managers fail to recognize the differences between their management preferences, and those held by the public at large. Good management depends on accurate perceptions of user values and preferences. Thus, if the leadership team takes the time to address the differences between the public and the leadership team and the wide spectrum of opinions with the public, yet also reveal general agreement on desired overall outcome, it is likely there will be a reduction in conflicts over public land management. Additionally, it is also important to note that although the values of the leadership team are institutionalized, public values are more likely to change more rapidly as economic, political, and social situations dictate. Thus, managers need to stay in touch with public values (i.e., beliefs about timber management and fires).

These results can be utilized to make suggestions to public land officials. First, since both the public and the leadership team agree on the need for individual responsibilities, a variety of these practices can be publicized more widely through educational and public involvement campaigns. Second, revealing the public's management values to USDA Forest Service employees would further educate the public land managers thus removing some of the speculation surrounding the public's desired outcome. Additionally, this would also reveal to Forest Service employees where they may need to spend more time explaining their expert opinions in order to broaden the public's understanding of the held values. Finally for the USDA Forest Service, continued examination of value difference between their leadership and the public will help Forest Service employees to better understand the culture and ideologies of those with who they must relate and with who they are interdependent, those who own the national forests, the public. Such understanding adds insight to make more broadly informed choices regarding ideological loyalties, public lands decision-making, and management tensions.

Moving beyond the USDA Forest Service, this examination of management and public values should be instructive to many natural resource agencies in understanding contexts within which public lands policies are implemented. Decision making for public policies involves not only management but also public actors and thus occurs in situations where values guiding the decision-making fundamentally differ. By understanding the differences, natural resource managers can move from incremental decision-making that obscures value conflicts and instead consider the long-term underlying compromises that take advantage of, at least, terminal value commonalities (Bullis and Kennedy 1991b).

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